

## Worksheet #9—D=RT Word Problems

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- (1) James and Javier each go on separate trips with Javier driving twice as fast as James. James travels for 3 hours while Javier travels for 2 hours. They drive a total of 280 miles. How fast does Javier drive?
- (2) Jill travels to work in 1 hr and 30 min, while Jane travels to work in 1 hr and 20 min. Jane drives 5 mph faster to work than Jill. They both drive the same distance to work. How fast does Jill drive, and how far do they both drive to work?
- (3) John leaves home traveling to the next city at 50 mph. His sister Joann leaves home 30 minutes later, traveling the same route as John, but Joann travels 65 mph. How long will it take Joann to catch up with John?
- (4) Lashandra drove from Elum to Sligo at an average rate of 50 mph. On the return trip she drove at an average rate of 60 mph, and made the trip in 45 minutes less time. How far is it from Elum to Sligo?
- (5) In a 10 kilometer race, Bill ran 12 kilometers per hour while Leo ran 10 kilometers per hour. How long did it take for them to be  $\frac{2}{3}$  of a kilometer apart?
- (6) Jose traveled 20 miles downstream in a boat in the exact same length of time it took him to travel 12 miles upstream. What was the speed of the current, if the speed of the boat (in still water) was 10 miles per hour?
- (7) Two cars start from a red light traveling down a highway in the same direction. One car averages 40 mph, while the other car averages 55 mph. How much time does it take before the two cars are 5 miles apart?
- (8) The Johnson's leave a ballgame traveling east at 40 mph, while the Brown's leave the same ballgame traveling west at 50 mph. How long will it take for them to be 120 miles apart?
- (9) A girl riding a motorcycle at 35 mph left home  $2\frac{1}{2}$  hours after her brother, who was riding a bicycle at 10 mph. How long will it take the girl on the motorcycle to overtake her brother if they are traveling in the same direction?
- (10) Two small airplanes are 3,520 miles apart and start simultaneously traveling toward each other. They meet after 8 hours. What are the speeds of the planes, if one plane travels 40 mph faster than the other?
- (11) Two trains leave towns 84 miles apart at the same time and travel toward one another. If one travels at 25 mph and the other at 31 mph, in how many hours will they meet? How far must each train travel?
- (12) A man walks 6 miles then rides a bike 42 miles. His total trip took 5 hours. If he rode the bike 8 mph faster than he walked, how fast did he walk?
- (13) Two people paddle a canoe downstream in a river flowing at the rate of 3 mph, then they returned traveling upstream. The entire trip was 96 miles and the trip upstream took twice as long as the trip downstream. How fast did they row in still water? How many hours was the complete trip?
- (14) A man logs time in an airliner and a rental car to reach his destination. The total trip is 1100 miles, the plane averaging 600 mph and the car 50 mph. How long is spent in the automobile if the trip took a total of  $5\frac{1}{2}$  hours?
- (15) A commuter rides a train into the city and catches a taxi to the office. The total trip is 50 miles. The train averages 60 mph and the cab 20 mph. If his trip takes a total of 1 hr, then how much time is spent on the train each morning?
- (16) Two joggers who are 21 miles apart begin running toward one another at the same time. One jogger runs 2 mph faster than the other jogger. They finally meet one another after exactly  $1\frac{1}{2}$  hours. How fast did the slower jogger run?

- (17) A trip is made by train and bus. The train averages 72 mph and the bus only 39 mph. The total trip of 405 miles takes 7 hours. How many hours did the train trip take?
- (18) A 236 mile trip is made by boat and by train. The boat averages 32 mph and the train 52 mph. How long is spent in the train, if the trip took a total of  $5\frac{1}{2}$  hours? How many miles was the train trip?
- (19) Chris takes an hour to get to work each day. He takes a train that averages 65 mph and a subway the rest of the way at 25 mph. If the total distance is 61 miles from home to work, how far does he ride the subway to get to work each day?
- (20) Members of an outdoor club paddle a canoe in still water at 6 mph. They traveled downstream one day for 24 miles and then camped overnight. Returning the next day, they noticed that after paddling for the same amount of time, they still had only traveled halfway back. What was the speed of the water in the stream?
- (21) Making a round trip from Fairview to Cartersville, a distance of 20 miles, a pilot faces a 30 mph head wind one way and a 30 mph tail wind on the return trip. The return trip takes 45 minutes less than the outbound journey. Find the speed of the plane in still air.
- (22) Two trains leave towns 84 miles apart at the same time and travel toward on another. If one travels at 25 mph and the other at 31 mph, in how many hours will they meet?
- (23) Juanita commutes 30 miles to work each day, partly on a highway and partly in city traffic. On the highway she doubles her city speed for just 15 minutes. If the entire trip takes an hour, what is her speed in city traffic?
- (24) Bill and Laura each drive one of their cars from their old home to their new home. Bill drives at 50 miles per hour but Laura drives 10 miles per hour faster. It takes Bill 1 hour longer than Laura to make the trip. Find their respective travel times and the distance between their old home and their new home.
- (25) Two brothers leave home at the same time and walk in opposite directions, one at  $3\frac{1}{2}$  mph and the other at 4 mph. How long will it be before the boys are 15 mi apart?
- (26) A small jet plane whose speed is 600 mph in still air, left a certain city traveling 1500 miles to another town. After traveling for the same length of time on the return trip, the plane still had 300 miles to go. How fast was the wind blowing?
- (27) Two brothers leave home at the same time and walk in opposite directions, one at  $3\frac{1}{2}$  mph and the other at 4 mph. How long will it be before the boys are 15 miles apart? How far does each boy walk?

Answers: (1) 80 mph (2) 40 mph, 60 miles (3)  $1\frac{2}{3}$  hrs (4) 225 miles (5) 20 min  
(6)  $\frac{5}{2}$  mph (7)  $\frac{1}{3}$  hr (8) 1 hr 20 min (9) 1 hr (10) 200 mph, 240 mph (11)  $1\frac{1}{2}$  hrs,  $37\frac{1}{2}$  miles,  $46\frac{1}{2}$  miles  
(12) 4 mph (13) 9 mph, 12 hrs (14) 4 hrs (15) 45 min (16) 6 mph (17) 4 hrs  
(18) 3 hrs, 156 miles (19)  $\frac{5}{2}$  miles (20) 2 mph (21) 50 mph (22)  $\frac{3}{2}$  hr (23) 24 mph  
(24) 5 hrs, 6 hrs, 300 miles (25) 2 hrs (26)  $66\frac{2}{3}$  mph (27) 2 hrs, 7 mi, 8 mi